



# RESEARCH BRIEF

## Research Services

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### **Miami-Dade County Public Schools: 2015-2016 Student Performance in the International Baccalaureate Program**

#### **Results at a Glance**

This Research Brief summarizes the performance of Miami-Dade County Public Schools (M-DCPS) students participating in the International Baccalaureate (IB) program. The IB program was offered at six M-DCPS high schools in 2015-2016. The number of IB examinations taken in M-DCPS decreased by two percentage points from 2014-2015 to 2015-2016. During the same time period, the number of IB examinations receiving passing scores increased by one percentage point. Almost two-thirds of IB examinations in M-DCPS were taken by Hispanic students, and females took 65% of the examinations. Students classified as "Other" (American Indian, Alaskan Native, Asian, Pacific Islander, and Multiracial categories) had the highest passing rates on IB examinations, followed by White students, Hispanic students, and then Black students. The passing rates for males and females were similar. At the conclusion of the 2015-2016 school year, 78% of eligible M-DCPS students received IB diplomas, an increase of three percentage points from 2014-2015.

The International Baccalaureate (IB) program is a rigorous pre-university curriculum and examination program that emphasizes the development of students' intellectual, personal, emotional, and social skills. The IB program provides students with a broad general education, while offering specialization based on students' interests and plans. The IB program is recognized at colleges and universities throughout the United States and worldwide.

Three IB programs span the years from kindergarten to pre-university. The programs can be offered individually (the Primary Years Program for students aged 3-12, the Middle Years Program for students aged 11-16, and the IB Diploma Program for students aged 16-19) or as a continuum. A fourth program, the Career-Related Program, is designed to address the needs of students aged 16-19 who are engaged in career-related education. This report focuses on the IB Diploma Program that is offered at M-DCPS senior high schools.

The IB Diploma Program is a two-year liberal arts curriculum designed to promote understanding of global citizenship. The program encourages students to become critical and compassionate thinkers and informed participants in local and world affairs. Students study six courses from six subject groups: language and literature; language acquisition; individuals and societies; sciences; mathematics; and the arts. Three additional core requirements are designed to broaden students' educational experience: the extended essay, an independent, self-directed

research project, culminating in a 4,000-word paper; a Theory of Knowledge course that encourages students to reflect on the nature of learning and different kinds of knowledge; and a Creativity, Action, Service (CAS) component that requires students to complete a combination of arts, athletics, and community service projects.

IB course descriptions in language and literature are as follows:

- Language A: Literature – The course introduces students to the analysis of literary texts. The course is available in 55 languages.
- Language A: Language and Literature – The course introduces the critical study and interpretation of written and spoken texts from a wide range of literary and non-literary genres. The course is available in 17 languages.
- Literature and Performance – The course explores the relationship between literature and theatre. The course is automatically available in English, and by special request in Spanish and French.

IB course descriptions in language acquisition are as follows:

- Language Ab Initio – The course is for beginners (students who have little or no previous experience of learning the language they have chosen).
- Language B – The course is intended for students who have some previous experience of learning the language.
- Classical Languages (Latin or Classical Greek) – The course provides opportunities for students to study the language, literature, and culture of ancient Rome or Greece.

Students in the IB Diploma Program take written examinations in each subject. These examinations assess the extent to which students have mastered advanced academic skills such as analyzing and presenting information; evaluating and constructing arguments; and solving problems creatively. Basic skills are also assessed, including retaining knowledge, understanding key concepts, and applying standard methods. Examinations are scored on a scale of 1 to 7 for each subject. A score of 4 is considered to be a passing score on an IB examination. Students must earn a total of 24 points on their six IB examinations in order to receive the IB diploma, subject to certain minimum levels of performance across all components of the program and satisfactory completion of the CAS requirement. Students can also be awarded up to three additional points for their combined results on Theory of Knowledge and the extended essay.

Six M-DCPS high schools offered the IB program and administered the corresponding IB examinations during the 2015-2016 school year: Coral Gables Senior, Coral Reef Senior, John A. Ferguson Senior, Miami Beach Senior, North Miami Senior, and South Dade Senior. This Research Brief includes data on these six M-DCPS schools. Tables included in this report provide data on the number of IB examinations taken and the percentage of examinations receiving passing scores, by subject area for all six M-DCPS schools combined and by gender and ethnicity separately for each of the six IB schools. The number and percentage of



participating students earning diplomas at each IB school are also provided. Finally, appendices at the conclusion of the report provide the number of IB examinations taken and the percentage of examinations receiving passing scores separately for each of the six M-DCPS IB high schools. The reader should note that results are not reported if fewer than 10 examinations were taken.

### **Participation in Examinations**

- In 2015-2016, M-DCPS students took 3,208 IB examinations. The number of examinations taken by M-DCPS students decreased by 2% from 2014-2015 to 2015-2016.
- M-DCPS students took IB examinations in 30 subject areas in 2015-2016. Overall, the most IB examinations were taken in Biology, English Literature, History, and Spanish B in 2014-2015. Over one-half (54%) of IB examinations taken by M-DCPS students were taken in these four subject areas.
- The district's Hispanic students took 64% of all IB examinations in 2015-2016. White students took 21% of IB examinations, Black students took 9%, and students classified as "Other" (American Indian, Alaskan Native, Asian, Pacific Islander, and Multiracial categories) took 6%. From 2014-2015 to 2015-2016, the percentage of exams taken by White students increased; the percentage of exams taken by Black students remained stable; and the percentage of exams taken by Hispanic students and students classified as "Other" decreased.
- Sixty-five percent of IB examinations in M-DCPS were taken by females and 35% were taken by males in 2015-2016. The percentage of exams taken by females increased by four percentage points from 2014-2015 to 2015-2016, while the percentage of exams taken by males decreased by four percentage points.
- Of all IB examinations taken during the 2015-2016 school year, the largest number was taken by students at Coral Gables Senior. They participated in 31% of all IB examinations. The percentages of examinations taken at the other five M-DCPS IB schools were as follows:
  - Coral Reef Senior: 28%
  - John A. Ferguson Senior: 20%
  - Miami Beach Senior: 12%
  - North Miami Senior: 5%
  - South Dade Senior: 4%
- From 2014-2015 to 2015-2016, the largest increase in the number of IB examinations administered was seen at Coral Gables Senior (20%). The number of IB examinations administered also increased at Miami Beach Senior (2%). The number of IB examinations taken decreased at South Dade Senior (45%), North Miami Senior (25%), John A. Ferguson Senior (10%), and Coral Reef Senior (2%).

- In 2015-2016, IB examinations were taken in more content areas at Coral Gables Senior and John A. Ferguson Senior (17 content areas) than at any other M-DCPS IB school.

### **Examination Results**

- Overall, the percentage of IB examinations receiving passing scores in M-DCPS increased from 80% in 2014-2015 to 81% in 2015-2016.
- The 2015-2016 subject areas in which the highest percentages of M-DCPS IB examinations received passing scores were English Literature, Information Technology in a Global Society, Spanish A Language and Literature, Spanish B, and World Religions. The subject areas in which the lowest percentages of IB examinations received passing scores were Chemistry and Physics.
- In 2015-2016, 82% of M-DCPS White students, 81% of Hispanic students, 70% of Black students, and 88% of students classified as "Other" received passing scores on IB examinations. From 2014-2015 to 2015-2016, the percentage of students receiving passing scores on their exams increased for White students and students classified as "Other," remained stable for Hispanic students, and decreased for Black students. Examination of individual school data showed notable increases in the percentage of Black students passing their exams at John A. Ferguson Senior (20%) and South Dade Senior (10%), the percentage of Hispanic students passing their exams at South Dade Senior (28%), and the percentage of students classified as "Other" passing their exams at North Miami Senior (12%).
- A similar percentage of the district's males and females passed IB examinations (80% and 81%, respectively) in 2015-2016. The number of both males and females passing their exams increased by one percentage point from 2014-2015 to 2015-2016.
- During the 2015-2016 school year, Coral Reef Senior had the highest percentage of IB examinations receiving passing scores (95%), followed by Miami Beach Senior (81%), John A. Ferguson Senior (79%), South Dade Senior (73%), Coral Gables Senior (72%), and North Miami Senior (62%).
- From 2014-2015 to 2015-2016, the percentage of IB examinations receiving passing scores increased at four of the six IB schools: Coral Reef Senior, John A. Ferguson Senior, Miami Beach Senior, and South Dade Senior. Most notable was the 31 percentage point increase in the number of exams receiving passing scores at South Dade Senior. The percentage of IB examinations receiving passing scores decreased at Coral Gables Senior and North Miami Senior.

### **Diploma Results**

- Grade 12 students who were enrolled in the IB program, met all program requirements, and took the required examinations were eligible to receive IB diplomas. The number of M-DCPS students eligible to receive IB diplomas decreased by four percentage points from 2014-2015 to 2015-2016.



- A total of 414 M-DCPS students, or 78% of eligible students, received IB diplomas at the conclusion of the 2015-2016 school year. The percentage of the district's eligible IB program students receiving an IB diploma increased by three percentage points from 2014-2015 to 2015-2016.
- Of the six M-DCPS IB high schools, Coral Reef Senior had the highest percentage of eligible students receiving IB diplomas (93%).
- Two of the six M-DCPS IB high schools posted increases in the percentages of eligible students receiving diplomas from 2014-2015 to 2015-2016: Miami Beach Senior and South Dade Senior. Most notable was the 42 percentage point increase in the number of eligible students receiving IB diplomas at South Dade Senior. The percentages of eligible students receiving IB diplomas decreased at Coral Gables Senior, Coral Reef Senior, John A. Ferguson Senior, and North Miami Senior.

**Table 1. Number of IB Examinations Taken and Percent of IB Exams Passed by Subject Area, 2014-2015 and 2015-2016  
M-DCPS, All IB Schools Combined**

Subject Area	# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016
Biology	302	316	59%	66%
Business and Management	13	24	62%	79%
Chemistry	218	204	61%	35%
Computer Science	8	3	N/A	N/A
Dance	12	19	1%	89%
Design Technology	20	N/A	35%	N/A
Economics	7	N/A	N/A	N/A
English B	N/A	1	N/A	N/A
English A Literature	550	512	96%	98%
Film	31	31	94%	84%
French AB	N/A	3	N/A	N/A
French B	100	99	81%	87%
Further Mathematics	N/A	1	N/A	N/A
Geography	27	28	63%	43%
German B	16	24	81%	88%
History	546	541	79%	88%
Information Technology in a Global Society	29	86	93%	97%
Italian B	25	17	84%	82%
Mathematical Studies	334	251	81%	79%
Mathematics	199	244	67%	56%

Music	6	2	N/A	N/A
Physics	25	13	64%	38%
Portuguese	5	N/A	N/A	N/A
Portuguese B	N/A	5	N/A	N/A
Psychology	265	283	74%	86%
Spanish A Language & Literature	24	22	100%	95%
Spanish A Literature	N/A	1	N/A	N/A
Spanish AB	17	13	82%	77%
Spanish B	385	354	96%	96%
Sports, Exercise, and Health Science	33	20	100%	40%
Theatre	49	49	98%	71%
Visual Arts	30	5	43%	N/A
World Religions	12	37	92%	92%
<b>Total, All Subjects</b>	<b>3288</b>	<b>3208</b>	<b>80%</b>	<b>81%</b>

**Table 2A. Number of IB Exams Taken and Percent of IB Exams Passed, by Ethnicity , 2014-2015 and 2015-2016**

	White				Black			
	# of Exams Taken		% of Exams Passed		# of Exams Taken		% of Exams Passed	
<u>School</u>	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016
Coral Gables Senior	150	223	79%	70%	26	43	85%	63%
Coral Reef Senior	172	204	92%	97%	84	91	93%	92%
John A. Ferguson Senior	30	60	77%	82%	27	12	63%	83%
Miami Beach Senior	187	155	74%	81%	0	18	N/A	78%
North Miami Senior	5	0	N/A	N/A	112	111	71%	55%
South Dade Senior	0	36	N/A	78%	47	12	40%	50%
<b>Total, All IB Schools</b>	<b>544</b>	<b>678</b>	<b>81%</b>	<b>82%</b>	<b>296</b>	<b>287</b>	<b>73%</b>	<b>70%</b>

**Table 2A cont. Number of IB Exams Taken and Percent of IB Exams Passed, by  
Ethnicity, 2014-2015 and 2015-2016**

<u>School</u>	Hispanic				Other			
	# of Exams Taken		% of Exams Passed		# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016
Coral Gables Senior	614	698	82%	73%	40	33	75%	82%
Coral Reef Senior	556	523	96%	95%	103	80	93%	94%
John A. Ferguson Senior	601	528	76%	78%	64	48	80%	81%
Miami Beach Senior	156	191	76%	82%	18	6	89%	N/A
North Miami Senior	66	33	91%	76%	25	13	80%	92%
South Dade Senior	138	84	45%	73%	65	6	38%	N/A
<b>Total, All IB Schools</b>	<b>2131</b>	<b>2057</b>	<b>81%</b>	<b>81%</b>	<b>315</b>	<b>186</b>	<b>76%</b>	<b>88%</b>

**Table 2B. Number of IB Exams Taken and Percent of IB Exams Passed, by  
Gender, 2014-2015 and 2015-2016**

<u>School</u>	Female				Male			
	# of Exams Taken		% of Exams Passed		# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016
Coral Gables Senior	494	656	81%	73%	336	341	80%	70%
Coral Reef Senior	540	596	93%	95%	377	302	97%	95%
John A. Ferguson Senior	486	409	80%	78%	236	239	69%	80%
Miami Beach Senior	247	220	76%	78%	114	150	75%	86%
North Miami Senior	113	94	75%	65%	95	63	81%	59%
South Dade Senior	142	96	45%	77%	108	42	39%	64%
<b>Total, All IB Schools</b>	<b>2022</b>	<b>2071</b>	<b>80%</b>	<b>81%</b>	<b>1266</b>	<b>1137</b>	<b>79%</b>	<b>80%</b>



**Table 3. Number and Percent of Students Receiving IB Diplomas, by School and M-DCPS Overall, 2014-2015 and 2015-2016**

School	Number of Students Eligible for IB Diplomas		Number of Students Receiving IB Diplomas		Percent of Students Receiving IB Diplomas	
	2014-2015	2015-2016	2014-2015	2015-2016	2014-2015	2015-2016
Coral Gables Senior	136	158	106	121	78%	77%
Coral Reef Senior	153	151	147	141	96%	93%
John A. Ferguson Senior	125	113	91	76	73%	67%
Miami Beach Senior	60	62	43	51	72%	82%
North Miami Senior	38	27	24	11	63%	41%
South Dade Senior	43	23	8	14	19%	61%
<b>Total, All IB Schools</b>	<b>555</b>	<b>534</b>	<b>419</b>	<b>414</b>	<b>75%</b>	<b>78%</b>

### Summary

This Research Brief summarized the performance of M-DCPS students participating in the IB program. Six M-DCPS high schools offered the IB program and administered the corresponding IB examinations during the 2015-2016 school year: Coral Gables Senior, Coral Reef Senior, John A. Ferguson Senior, Miami Beach Senior, North Miami Senior, and South Dade Senior.

The number of IB examinations taken in M-DCPS decreased by two percentage points from 2014-2015 to 2015-2016. Over 3,200 examinations were taken by M-DCPS students in 30 subject areas in 2015-2016. Almost two-thirds of IB examinations were taken by Hispanic students, and females took 65% of the examinations.

Passing rates on IB examinations ranged from 62% to 95% at each of the M-DCPS high schools, with an overall passing rate of 81% across the six schools. Coral Reef Senior had the highest percentage of IB examinations receiving passing scores. Across all schools, the number of IB exams receiving passing scores increased by one percentage point from 2014-2015 to 2015-2016.

Students classified as "Other" had the highest passing rates on IB examinations in 2015-2016, followed by White students, Hispanic students, and then Black students. From 2014-2015 to 2015-2016, the percentage of students receiving passing scores on their exams increased for White students and students classified as "Other," remained stable for Hispanic students, and decreased for Black students.

The passing rates in 2015-2016 for males and females were similar. The number of both males and females passing their exams increased by one percentage point from 2014-2015 to 2015-2016.



Overall, 78% of M-DCPS' eligible students received an IB diploma at the conclusion of the 2015-2016 school year. The percentage of eligible students earning an IB diploma increased by three percentage points from 2014-2015 to 2015-2016. Of the six M-DCPS IB high schools, Coral Reef Senior had the highest percentage of eligible students receiving IB diplomas.

**Appendix A. Number of IB Examinations Taken and Percent of IB Exams  
Passed by Subject Area, 2014-2015 and 2015-2016  
Coral Gables Senior**

<b>Subject Area</b>	<b># of Exams Taken</b>		<b>% of Exams Passed</b>	
	<b>2014- 2015</b>	<b>2015- 2016</b>	<b>2014- 2015</b>	<b>2015- 2016</b>
Biology	69	92	65%	61%
Business and Management	6	14	N/A	64%
Chemistry	53	96	47%	7%
Computer Science	8	3	N/A	N/A
English A Literature	136	153	97%	99%
French B	29	35	72%	86%
German B	7	7	N/A	N/A
History	131	182	89%	95%
Italian B	12	9	92%	N/A
Mathematical Studies	96	58	97%	91%
Mathematics	42	96	43%	19%
Music	1	2	N/A	N/A
Physics	24	13	63%	38%
Psychology	103	117	70%	84%
Spanish A Language & Literature	24	22	100%	95%
Spanish B	76	81	97%	96%
Theatre	12	17	100%	53%
Visual Arts	1	0	N/A	N/A
<b>Total, All Subjects</b>	<b>830</b>	<b>997</b>	<b>81%</b>	<b>72%</b>

Appendix B. Number of IB Examinations Taken and Percent of IB Exams Passed by Subject  
Area, 2014-2015 and 2015-2016  
**Coral Reef Senior**

Subject Area	# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016
Biology	47	63	83%	90%
Chemistry	94	48	74%	94%
English A Literature	151	151	100%	100%
French B	29	41	97%	98%
German B	9	17	N/A	100%
History	151	151	95%	94%
Information Technology in a Global Society	29	86	93%	97%
Mathematical Studies	75	67	99%	88%
Mathematics	90	66	93%	92%
Psychology	51	60	100%	100%
Spanish B	121	116	100%	99%
Sports, Exercise, and Health Science	33	0	100%	N/A
Theatre	37	32	97%	81%
<b>Total, All Subjects</b>	<b>917</b>	<b>898</b>	<b>94%</b>	<b>95%</b>



Appendix C. Number of IB Examinations Taken and Percent of IB Exams Passed by  
Subject Area, 2014-2015 and 2015-2016  
**John A. Ferguson Senior**

Subject Area	# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016
Biology	84	71	63%	65%
Business and Management	7	10	N/A	100%
Chemistry	45	33	64%	33%
Dance	12	19	N/A	89%
Design Technology	20	0	35%	N/A
English A Literature	124	100	94%	98%
Film	31	31	94%	84%
French B	19	16	68%	63%
Further Mathematics	0	1	N/A	N/A
History	123	100	72%	71%
Italian B	13	8	77%	N/A
Mathematics Studies	49	55	73%	73%
Mathematics	45	49	36%	65%
Physics	1	0	N/A	N/A
Psychology	22	18	100%	100%
Spanish B	93	76	98%	100%
Sports, Exercise, and Health Science	0	20	N/A	40%
Visual Arts	22	4	50%	N/A
World Religions	12	37	92%	92%
<b>Total, All Subjects</b>	<b>722</b>	<b>648</b>	<b>76%</b>	<b>79%</b>

Appendix D. Number of IB Examinations Taken and Percent of IB Exams  
Passed by Subject Area, 2014-2015 and 2015-2016  
**Miami Beach Senior**

Subject Area	# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016
Biology	35	35	26%	54%
Chemistry	26	27	35%	33%
English A Literature	60	61	98%	98%
English B	0	1	N/A	N/A
French AB	0	3	N/A	N/A
French B	7	3	N/A	N/A
Geography	27	28	63%	43%
History	61	61	77%	92%
Mathematical Studies	38	29	92%	93%
Mathematics	22	33	73%	76%
Music	5	0	N/A	N/A
Portuguese B	5	5	N/A	N/A
Spanish A Literature	0	1	N/A	N/A
Psychology	27	33	85%	97%
Spanish AB	13	12	92%	83%
Spanish B	35	38	100%	100%
<b>Total, All Subjects</b>	<b>361</b>	<b>370</b>	<b>75%</b>	<b>81%</b>

Appendix E. Number of IB Examinations Taken and Percent of IB  
Exams Passed by Subject Area,  
2014-2015 and 2015-2016  
**North Miami Senior**

Subject Area	# of Exams Taken		% of Exams Passed	
	2014-2015	2015-2016	2014-2015	2015-2016
Biology	29	32	86%	38%
Economics	7	0	N/A	N/A
English A Literature	37	24	97%	96%
French B	14	4	93%	N/A
History	37	24	68%	75%
Mathematical Studies	34	19	79%	47%
Psychology	27	33	63%	67%
Spanish B	23	21	78%	52%
<b>Total, All Subjects</b>	<b>208</b>	<b>157</b>	<b>78%</b>	<b>62%</b>



Appendix F. Number of IB Examinations Taken and Percent of IB  
Exams Passed by Subject Area,  
2014-2015 and 2015-2016  
**South Dade Senior**

Subject Area	# of Exams Taken		% of Exams Passed	
	2014- 2015	2015- 2016	2014- 2015	2015- 2016
Biology	38	23	21%	74%
English A Literature	42	23	76%	91%
French B	2	0	N/A	N/A
History	43	23	28%	70%
Mathematical Studies	42	23	17%	43%
Psychology	35	22	31%	64%
Spanish AB	4	1	N/A	N/A
Spanish B	37	22	86%	100%
Visual Arts	7	1	N/A	N/A
<b>Total, All Subjects</b>	<b>250</b>	<b>138</b>	<b>42%</b>	<b>73%</b>